

USSR

UDC 621.039.51.12

IGNATOV, A. A., SHIKHOV, S. B., SUVOROV, A. P.

"Semianalytical Method for Calculating the Neutron Field in a Straight One-Dimensional Shield"

V sb. Vopr. fiz. zashchity reaktorov (Problems in Reactor Safety Physics --- Collection of Works), No. 5, Moscow, Atomizdat, 1972, pp 57-63 (from RZh-50. Yadernyye reaktory, No 5, May 72, Abstract No 5.50.60)

Translation: The exact solution of neutron transport boundary value problems can be obtained on the basis of a complete system of elementary solutions of the kinetic equation (the Case method). The boundary value problem for a shielding layer irradiated by an external source is reduced to a system of linear algebraic equations on the basis of the representation of the continuous portion of the spectrum of the transport operator by discrete points. Calculations by the method of elementary solutions in one- and two-group consideration are compared with calculations by the method of discrete ordinates based on the ROZ program. 2 ill., 10 ref.

1/1

USSR

UDC 621.039

ZARITSKIY, S. M., RAKITIN, I. D., and SHIKOV, S. B.

"Finite-Difference Representation of Formulas of Perturbation Theory for Calculating Reactivity"

V sb. Fiz. yadern. reaktorov (Physics of Nuclear Reactors -- Collection of Works), No 2, Moscow, Atomizdat, 1970, pp 153-167 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V542)

Translation: Changes in the reactivity of fast reactors associated with a change in fuel temperature or the amount of sodium depend both on the magnitude of the perturbation and on the parameters of the critical reactor. The authors pose the problem of determining the change in reactivity with a change in these conditions. As is well-known, the reactivity is a bilinear-fractional functional of neutron flux and importance; namely, $P = L\{\sigma^b, FF^+\}/INF$, where L is the so-called operator of perturbation theory, σ^b is the perturbation cross section, INF is the importance of fission neutrons. Fluxes are determined in the multigroup diffusion approximation by solution of the finite-difference equations by the factorization method. A finite-difference formula for the change in reactivity and the change in reactivity/-reactivity was obtained in the small perturbation approximation. A. G. Promokhov.

1/1

- 63 -

USSR

UDC 621.039

SHIKHOV, S. B., IGNATOV, A. A., and ODINTSOV, V. S.

"Solution of the Problem on Radiation Transfer With Representation of the Continuous Portion of the Spectrum of the Transfer Operator by Discrete Points"

V sb. Fiz. yadern. reaktorov (Physics of Nuclear Reactors -- Collection of Works), No 2, Moscow, Atomizdat, 1970, pp 82-90 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V547)

Translation: Application of the Case method to transport problems is made difficult by the fact that to find the coefficient $A(v)$ in the integral term one must solve a singular integral equation. An approximation method is proposed for solving the singular integral equation based on representing the integral term in the interval $v \in [-1, 1]$ by a finite sum; the points of division of the interval v_i , $i = 1-n$ are roots of the equation $h_N(v) = 0$, where $h_N(v)$ is the N -th moment of the expansion of the elementary solution of $\phi(v, \mu)$ in Legendre polynomials. N is greater than or equal to the order of anisotropy of the scattering nucleus. The problem of the passage of neutrons through a multilayered plate was solved by this method

1/2

USSR

SHIKHOV, S. B., et al, Fiz. yadern. reaktorov (Physics of Nuclear Reactors -- Collection of Works), No 2, Moscow, Atomizdat, 1970, pp 82-90 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V547)

in the transport approximation. A Green's function was constructed for any layer, and the relationship was derived between the angular moments $\psi_k(x, \mu)$ for two different layers. The boundary conditions are achieved approximately by the Marshak method or for a number of discrete directions. A. G. Promokhov.

2/2

- 74 -

SHIKHOVA.R

Econ

CONTROL OF TECHNICAL PROGRESS DISCLOSED

Article by A. N. Shikova, Candidate of Economic Sciences, Institute of Control of Technical Progress in the Branches of the Academy of Sciences of the USSR, No. 4, 1971, pp. 19-47.

The significant accomplishments in the development of the timber industry during the last 2 decades are the growth of using highly productive technical equipment and progressive technology, improvement in organization of labor and production, and a sharp increase in the capital-labor ratio and the mechanization of basic work. This has made it possible to increase the volume of logging by almost 50 percent and to increase the overall output per staff employee by more than 150 percent. The directives of the 24th CPSU Congress marked the path to further development of the timber processing industry: the construction of new enterprises, the reconstruction of existing enterprises, the introduction of more modern machines and equipment, improvement in the organization of the work, improvement in the structure of production, and optimal utilization of new, highly mechanized labor management enterprises, and improvement in the working and living conditions of workers and personnel employed in timber processing.

The enterprises which have been achieved and the further progress which is intended in the Ninth Five-Year Plan, do not exclude the question of the reasons for the significant increase in the cost price of timber products, and the decrease in the output-capital ratio and the ratio of growth of productivity of labor. Economic research done by the USSR Academy of Sciences, the Central Scientific Research Institute of Mechanization and Power Engineering in the timber industry, make it possible to expose the basic reasons for the decrease in the effectiveness of timber production. The economic turnover involves supply of wood from distant regions of the north, Siberia, and the

JPRS 55237 26 February 1972, Translations on USSR Economic Affairs, No. 339

1/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ON SKIN MANIFESTATIONS OF RHEUMATISM -U-
AUTHOR--(02)-SHIKHOVA, N.M., DOVZHANSKIY, S.I.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELO, 1970, NK 4, PP 38-41
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RHEUMATIC DISEASE, SKIN EFFECT

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1710 STEP NO--UR/0475/70/000/004/0038/0041
CIRC ACCESSION NO--AP0129080
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0129080

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY IS PRESENTED OF 43 PATIENTS WITH RHEUMATISM SHOWING VARIOUS CUTANEOUS MANIFESTATIONS OF THE SYSTEMIC DISEASE. SKIN MANIFESTATIONS OCCURED IN THE ACTIVE AND NON ACTIVE PHASES OF RHEUMATISM. THE MOST FREQUENT WERE : ANNULAR ERYTHEMA, ERYTHEMA NODOSUM, URTICARIA AND RHEUMATIC PURPURA. SKIN INVOLVEMENT APPEARED AS A RULE DURING EXACERBATION OF THE RHEUMATIC PROCESS. EFFICIENT TREATMENT OF RHEUMATISM RESULTED IN EXTINCTION OF THE SKIN CHANGES. SKIN MANIFESTATIONS OF RHEUMATISM HAVE A CHRONIC RELAPSING CHARACTER. FACILITY: SUCHINSKIY NAUCHNO-ISSLED. INSTITUT KURORTOLOGII I FIZIOTERAPII, MZ RSFSR.

UNCLASSIFIED

USSR

AVAKYAN, K. M., ALIKHANYAN, A. I., GARIBYAN, G. M., LORIKYAN, M. P., SHIKHLYAROV, K. K.

"Detection of Transient X-Radiation by Means of a Streamer Chamber"

Yerevan, Izvestiya Akademii Nauk Armyanskoy SSR, Fizika, Vol 5, No 4, 1970, pp 267-274

Abstract: A new method is proposed for detecting x-ray transient radiation by means of a streamer chamber with an admixture of Xe. Use of the streamer chamber provides for separate observation of the radiation as well as of the particle, and the presence of Xe provides great efficiency in the detection of photons. It is shown that the average number of transient quanta increases linearly in the electron-energy interval from 1.2 to 2.46 Gev. With the use of foam plastic instead of a layered medium, the efficiency of electron detection with respect to transient radiation equalled 86%.

1/1

USSR

UDC 8.74

SOLODOVNIKOV, V. V., SHIKHOVTSEV, V. A.

"Finite Approximation and Its Application in the Recognition and Identification Problem of Nonlinear Systems"

V sb. Avtomat. upr. i vychisl. tekhn. (Automatic Control and Computer Technology -- Collection of Works), No. 10, Moscow, "Mashinostroyeniye", 1972, pp 59-73 (from RZh-Matematika, No 9, Sep 72, Abstract No 9V686)

Translation: A class of finite functions is defined and the problem of the approximation of continuous functions by a finite piecewise-linear function is solved. The finite approximation is used for purposes of identification of an essentially nonlinear system without a memory and for one class of nonlinear systems with a memory. Recurrent relationships are obtained for the unbiased estimate of the parameters determining the nonlinear system. Possibilities of applying the method of finite approximation are discussed. Authors abstract.

1/1

USSR

UDC 8.74

SOLODOVNIKOV, V. V., SHIKHOVTSEV, V. A.

"Finite Approximation and Its Application in the Problem of Recognition and Identification of Nonlinear Systems"

V sb. Avtomat. upr. i vychisl. tekhn. (Automatic Control and Computer Engineering — collection of works), Vyp. 10, Moscow, Mashinostroyeniye Press, 1972, pp 59-73 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V686)

Translation: The class of finite functions is defined, and the problem of approximating continuous functions by a finite piecewise linear function is solved. The finite approximation is used for identification of essentially nonlinear systems without memory and for a class of nonlinear systems with memory. Recurrent relations are obtained for an unbiased estimate of the parameters defining the nonlinear system. The prospects for application of the method of finite approximation are discussed.

1/1

SHIKINA, M. I.

LIFE SUPPORT SYSTEMS

METHODS FOR CLEAN CONDENSATION OF ATMOSPHERIC MOISTURE FOR ITS USE IN A CLOSED ECOLOGICAL SYSTEM

JPRS-54562
17 NOV 71

JPRS 54502
17 November 1971

COLEED

[Article by O. P. Kozhanchikov, S. V. Golitsyn, M. I. Shikina, and V. V. Kozhanchikov, *Trudy Vsesoyuznogo Nauchno-Issledovatskogo Instituta Khimii, Moscow*, No. 5, 1971, signed to press 14 May 1971, pp 184-190]

(Inorganic Chemistry Faculty)

The reprocessing of water during prolonged space flights has great significance for reducing the weight of the life support systems [1, 10, 12]. Based on data furnished by a number of authors [1, 10, 12], the daily human requirement for water during a flight of 3 days amounts to about 1.2-1.4 m³ [10]. On a 1 month flight, a man needs 15-20 m³, while on a 3 year flight, he needs 25-40 m³. Water sources on spacecraft can consist of atmospheric humidity condensates (AEC), urine, sanitary-hygiene water, transpiration for the condensates of liquor and lower plants) and condensate of fuel cells. For the immediate space flights, it is primarily feasible to recover water from the least polluted products of AEC type or the transpiration water from plants.

The main source of AEC is the moisture from air breathed by man, containing highly volatile products of his life activity. At the present time, there has been identified in AEC a large number of chemical compounds, both of organic and inorganic nature. Among the identified inorganic substances (isopropylalcohol, we include ammonia, nitrites, nitrates, chlorides, phosphates and sulfates of calcium, magnesium, potassium, sodium and sodium) among the organic impurities, we include the lower aliphatic alcohols, fatty acids, ketones, aldehydes and amines [7].

Acetone is formed in the human organism during the transformation of fatty acids and hydrocarbons. It is excreted mainly with exhaled air and in the urine. The release of acetone is also possible through the skin when its (acetone's) level in the blood is high.

SHIKINA, M. I.

SD: JPAS 53440
24 June 71

UDC 613.12:629.70.016

ARTIFICIAL MINERALIZATION OF WATER REGENERATED DURING SPACEFLIGHT

[Article by M. I. Shikina, B. V. Chibrikov, V. V. Kravchenko, T. I. Aladin, E. A. Gerasimov and A. F. Khokhlov. Moscow, Kozmicheskaya Biologiya i Medicina, Moscow, Vol. 2, No. 2, 1971, pp. 20-31, submitted for publication 12 February 1970] M-

Abstract: Data published in the Soviet and foreign literature indicate a need for adding minerals to the water regenerated from human wastes during spaceflight. The paper presents experimental findings concerning the mineralization of regenerated water with solid-phase salts, potassium 2-CuO-SiO₃, and salt tablets. This method has certain advantages over current techniques, yielding drinking water with better organoleptic properties and superior physicochemical composition.

Since drinking water can be obtained during spaceflight by means of its regeneration from the products of man's vital functions and waste, hygienists are faced with the serious problem of ensuring that the regenerated water will have the required palatability and chemical composition.

It is known that in its composition regenerated water is close to distilled water and is characterized by the absence of mineral compounds present in natural drinking water which are physiologically important for the human body (Yu. Ye. Sinyuk).

The biological role of most macro- and microelements present in water has been studied quite well (A. I. Veynar; R. D. Gubovich).

It is well known that food plays the principal role in supplying the body with mineral compounds. However, it has been established through research that the inadequate intake of individual mineral components with water can also exert a negative effect both on its organoleptic properties and on a number of body physiological functions (L. I. Shulzhinskii; Margaret). For example,

Life Support Systems

1/2 021
UNCLASSIFIED
TITLE---STUDY OF THE FUNCTIONAL CONDITION OF THE LUNGS BY MEANS OF
SCANNOPULMONOGRAPHY -U-
AUTHOR-(02)-NEYMARK, I.I., SHIKHMAN, SH.M.
PROCESSING DATE--02OCT70
COUNTRY OF INFO--USSR
SOURCE--TERAPEVITICHESKIY ARKHIV, 1970, VOL 42, NR 3, PP 61-69
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LUNG, BLOOD CIRCULATION, CANCER, LYMPHOID TISSUE, METASTASIS,
TUBERCULOSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PRUXY REEL/FAME--1986/0321
STEP NO--UR/0504/70/042/003/0061/0069
CIRC ACCESSION NO--AP0102783
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0102783

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS ARE ANALYSED OF SCINTIGRAPHY FOR DETERMINATION OF THE CONDITION OF PULMONARY BLOODFLOW IN 73 PATIENTS: 29 WITH CANCER, 24 SUPPURATION, 20 PULMONARY TUBERCULOSIS, AND 8 HEALTHY INDIVIDUALS. THE AUTHORS COME TO THE CONCLUSION THAT SCANDO PULMONOGRAPHY IN COMBINATION WITH INDIVIDUAL PULSE COUNT ON EACH LUNG AND PLANIMETRY OF SCANNOGRAMS OBJECTIVELY CHARACTERIZES THE CONDITION OF PULMONARY BLOODFLOW. THE METHOD ALLOWS DETERMINATION OF CIRCULAR DISORDER NOT ONLY IN THE ENTIRE LUNG BUT ALSO IN DIFFERENT PORTIONS. MAXIMUM DISORDERS OF PULMONARY MICROCIRCULATION WERE DETECTED IN CENTRAL CANCER WITH METASTASES INTO THE REGIONAL LUMPH NODES, IN EXTENSIVE SUPPURATIVE PROCESSES, COMPLICATED BY PNEUMOSCLEROSIS AND IN FIBROUS CAVERNOUS TUBERCULOSIS.

UNCLASSIFIED

USSR

UDC: 577.1:615.7/9

TREGUBENKO, I. P., SIKHACHEVA, Ye. I., BELOVA, M. N., NYASHINA, O. A., MEN'-SHIKOVA, G. A., SEMENOV, D. I.

"Effect of Ethylenediaminetetraacetic, Cyclohexylaminetetraacetic and Diethylenetriaminepentaacetic Acid Sodium Salts on the Behavior of Cadmium-115 in an Organism"

Tr. In-ta ekol. rast. i zhivotnykh. Ural'sk. fil. AN SSSR (Works of the Institute of Plant and Animal Ecology. Ural Affiliate, Academy of Sciences of the USSR), 1970, vyp. 68, pp 65-67 (from RZh-Biokhimiya, No 23, 10 Dec 70, Abstract No 2352208)

Translation: The cadmium complex with ethylenediaminetetraacetic acid sodium salt is partially dissociated under conditions in the organism, whereas cadmium complexes with cyclohexylaminetetraacetic and diethylenetriaminepentaacetic acid sodium salts, which have higher constants of stability, are almost completely eliminated from the organism of rats within the first few days. Early application of the complexing agents appreciably reduces the deposition of cadmium in the tissues, and increases its elimination with

1/2

USSR

TREGUBENKO, I. P., et al., Tr. In-ta ekol. rast. i zhivotnykh. Ural'sk. fil. AN SSSR, 1970, vyp. 63, pp 65-67

urine. Diethylenetriaminepentaacetic acid sodium salt has the most pronounced effect. Stable complexes of cadmium-115 are eliminated almost entirely through the kidneys, part of the isotope being selectively retained in the kidneys (23-43 percent of the residue in the organism), which may be utilized for irradiation of kidney tumors. From the authors' resume.

Epidemiology

USSR :

UDC 616.981.455-084(476)

KORZENKO, V. N., and SHIKULOV, V. A., Belorussian Scientific Research Institute of Epidemiology and Microbiology

"Prophylaxis of Tularemia in Belorussia"

Minsk, Zdravookhraneniye Belorussii, Vol 17, No 6, Jun 71, pp 47-48

Abstract: Studies conducted in Belorussia during the past 25 yrs indicated that, among cases of tularemia recorded in the enzootic area, 80.95% and 5-20% occurred among inhabitants of the country and of cities, respectively. The incidence of the disease was 25 times lower in cities than in the country. Country inhabitants were infected mainly while gathering hay or catching water voles (*Arvicola terrestris*), while city inhabitants contracted the disease during vacations in the country. The disease was mostly communicable (in 32.3-75% of cases), but in 1962-63 54.8% of cases occurred as a result of contact with contaminated water. Infection by the respiratory route occurred only in 1951 in connection with winter threshing of rye. It is necessary to immunize against tularemia both the country population and city inhabitants who spend any time in country areas in which tularemia is enzootic. At present the ratio of those who have not been immunized in the population subject to immunization is too high (25-40% in individual rayons). One of the reasons 1/3 :

USSR

KORSENKO, V. N., and SHIKULOV, V. A., Zdravookhraneniye Belorussii, Vol 17, No 6, Jun 71, pp 47-48

for this is that no distinction is made between temporary and premanent contraindications. In some cases in which coverage of the population by immunization was complete, tularin tests indicated that the ratio of persons developing immunity following vaccination was too low. This ratio was 35-38.4% in some medical districts of Gomel' and Minsk oblasts 1-2 yrs after immunization, while it was 97-97.5% in the neighboring districts. The reasons for the low ratio in some medical districts were use of improper procedures in administering the vaccine and storing it before immunization. Practical experience shows that immunity lasts for 5 yrs or longer whenever the vaccine has been applied correctly according to directions. It would be best to use the method of cyclic immunization of the total population of enzootic zones during a calendar year. This method (Pilipenko et al, Zh. Mikrobiol., Epidemiol. i Immunobiol. No 6, 25, 1964) has been successfully applied in Stavropol' Kray and elsewhere in the RSFSR. In subsequent years only arrivals from areas in which there is no tularemia and children who have reached the age of 7 yrs are immunized. Reimmunization of the total population is carried out 5 yrs later. In establishing whether or not tularemia is enzootic in any area, it is of

2/3

- 34 -

USSR:

KORZENKO, V. N., and SHIKULOV, V. A., Zdravookhraneniye Belorussii, Vol 17,
No 6, Jun 71, pp 47-48

importance to pay attention to diseases such as lymphadenitis, Parinaud's
conjunctivitis, necrotic sore throat, tuberculosis of lymph nodes, pneumonia,
and some others, which often mask tularemia.

3/3

Miscellaneous

USSR

UDC: None

SHIKUNOV, YU. A.

"Device for the Correlation Analysis of Processes with Nonstationary Mathematical Expectation"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 12, 1973, pp 149, no 371591

Translation: The device contains a unit for the formation of second-order finite differences, connected with a correlator, distinctive in that, in order to simplify the analysis of processes with stationary n -increments, it contains a squaring unit for evaluating the mathematical expectation which is connected to a subtracting device whose second input is joined to the correlator output; the input of the squaring unit is connected to the unit for forming the finite differences.

1/1

USSR

UDC: 8.74

SHIKUNOV, Yu. A.

"On a Method of Pattern Recognition"

Vychisl. tekhn. v mashinostr. Nauch.-tekhn. sb. (Computer Technology in Machine Building. Scientific and Technical Collection), 1971, pp 57-63 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V664 by V. Mikheyev)

Translation: The author considers a method of recognizing patterns described by a multidimensional realization of random processes with the use of experimental number histograms of multidimensional probability densities in the recognition algorithm. The functional of the minimum of the distance measure is used as the recognition criterion.

1/1

USSR

UDC: 519.2

GALUSHKIN, A. I., ZOTOV, Yu. Ya., and SHIKUNOV, Yu. A.
"On-Line Processing of Experimental Data"

Moscow, "Energiya," 1972, 360 pp, illustrated (from RZh--Matematika, No 6,
1972, Abstract No 6V190K)

Translation: The book considers problems in the on-line processing of experimental data. The coding of samples of stationary and nonstationary random processes is investigated, and methods are given for constructing rapidly coding devices. An examination is made of problems and methods of operative statistical processing of unidimensional and multidimensional samples of random processes on a digital computer and with the use of special apparatus. A detailed investigation is made of methods of accelerating correlational analysis of random processes. Problems of the recognition of forms, based on statistical algorithms, are examined.

The book is designed for specialists in automation, cybernetics, communications, and electronics.

1/1

USSR

SHIKUNOV, Yu. A.

UDC: 681.3.05:519.2

"An Adaptive Analog-Digital Converter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 12, Apr 72, Author's Certificate No 334567, Division G, H, filed 24 Jul
70, published 30 Mar 72, p 182

Translation: This Author's Certificate introduces an adaptive analog-
digital converter which contains a coding device with controllable ref-
erence voltage source connected to an input signal scaler which is connected
in turn to a cadence counter pulse generator. The converter also contains
logic elements. As a distinguishing feature of the patent, in order to in-
crease the probability of correct conversion in the case of self-adjustment
in the quantization band, the converter contains a circuit for determining
coding redundancy. This circuit is connected to the coding device and to
the controllable reference voltage source. For the same purpose, the con-
verter contains a circuit for determining the probability of distorted coding
which is connected by its outputs to the circuit for determining redundancy
and to the controllable reference voltage source, and by its inputs to the
coding device and to the cadence pulse generator.

1/1

- 76 -

USSR

SHUKUNOV, Yu. A.

UDC 51:155.001.57:681.3.06

"One Method of Recognition of a Multivariate Random Process"

Metody Predstavleniya i Apparatur' Analiz Sluchayn. Protssesov i Poley. 3-y
vses Simpozium. Sekts. 3, [Methods of Representation and Hardware Analysis of
Random Processes and Fields. Third All-Union Symposium, Section 3--Collection
of Works], Leningrad, 1970, pp 60-64, (Translated from Referativnyy Zhurnal
Kibernetika, No 5, 1971, Abstract No. SV685, unsigned).

Translation: This work is dedicated to problems of the use of numerical
histograms of the probability distribution density of n-dimensional processes
in statistical recognition algorithms.

035

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--CORTICOSTEROID TEST AND HEREDITY IN PRIMARY GLAUCOMA -U-

AUTHOR--SHIKUACVA, R.P.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 3, PP 43-45

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TEST, CORTICOSTEROID, HEREDITY, EYE DISEASE, HYPERTENSION, HYDRODYNAMICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3002/1929

STEP NO--UR/0357/70/000/003/0043/0045

CIRC ACCESSION NO--AP0129278

UNCLASSIFIED

035

CIRC ACCESSION NO--AP0129278
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. IN 3 GROUPS TOTALLING 70 SUBJECTS, VIZ. PATIENTS SUSPECTED OF GLAUCOMA, THOSE IN WHOM THE DISEASE WAS CONFIRMED ON EXAMINATION AND CONTROLS ENCOMPASSING RELATIVES OF GLAUCOMATOUS PATIENTS, THE EFFECT OF THE STEROID TEST WAS ANALYZED. THIS IMPLIED A 6 FOLD INSTILLATION OF A 0.1PERCENT DEXAMETHASONE SOLUTION INTO THE RIGHT EYE FOR 3 WEEKS, THE RIGHT EYE SERVING AS CONTROL. IN 20 CONTROLS THE STEROIDS FAILED TO PRODUCE ANY SIGNIFICANT CHANGES IN HYDRODYNAMIC VALUES. SUBJECTS SUSPECTED OF GLAUCOMA AND RELATIVES OF GLAUCOMATOUS PATIENTS RESPONDED IN A SIMILAR MANNER TO DEXAMETHASONE, THE STATISTICALLY SIGNIFICANT REACTIONS BEING: A RISE OF INTRACULAR PRESSURE; INCREASED DIURNAL FLUCTUATIONS OF THE OPTHALMOTONE AND DECREASED OUTFLOW OF THE AQUEOUS HUMOUR, CONFIRMED BY TONOGRAPHY AND VACUUM COMPRESSION. THE STEROIDS INDUCED MYDRIASIS PROVED MORE MARKED IN RELATIVES, BUT THE RISE OF THE OPTHALMOTONE DID NOT OCCUR SYNCHRONOUSLY WITH DILATION OF THE PUPIL. THE PRESENT ANALYSIS SUPPORTS BECKER'S HYPOTHESIS AS TO THE DIAGNOSTIC IMPORTANCE OF THE STEROID TEST IN ELICITING PREDISPOSITION TO GLAUCOMA. A POSITIVE RESPONSE TO STEROIDS, EVEN WITH NORMAL HYDRODYNAMICS, SHOULD BE REGARDED AS A GOOD REASON FOR THE RELATIVES OF GLAUCOMATOUS PATIENTS TO BE PUT ON THE DISPENSARY REGISTRATION LISTS, AS INDIVIDUALS WITH PREDILECTION TO GLAUCOMA.

FACILITY: KUYBYSHEVSKAYA OBLASTNAYA GLASNAYA
KLINICHESKAYA BOL'NITSA.

UNCLASSIFIED

USSR

UDC: 661.143

KOVALEV, B. V., SHIKUNOVA, S. T., VEDEKHIN, A. F.

"On an Accelerated Method of Determining the Drop in Luminescence Brightness of Electrofluorescent Scopes"

Sb. nauch. tr. VNII lyuminoforov i osobo chist. veshchestv (Collected Scientific Works of the All-Union Scientific Research Institute of Phosphors and Extra Pure Materials), 1971, vyp. 5, pp 98-107 (from RZh-Khimiya, No 7, Apr 72, Abstract No 7L176)

Translation: An accelerated procedure is proposed for determining the operating time of electroluminescent scopes on a frequency of 400 Hz over a relatively short period with high precision. Resume.

USSR

UDC: 661.143

KOVALEV, B. A., VEDEKHIN, A. F., SHIKUNOVA, S. T.

"Investigation of the Effect of the Reflecting Layer on the Characteristics of Low-Voltage Electroluminescent Devices"

Sb. nauch. tr. VNII lyuminesforov i osobo chist. veshchestv (Collected Scientific Works of the All-Union Scientific Research Institute of Phosphors and Extra Pure Materials), 1971, vyp. 5 pp 207-209 (from RZh-Khimiya, No 7, Apr 72, Abstract No 7L182)

Translation: TiO_2 and barium titanate BaTiO_3 are used in combination with VS-530 dielectric lacquer binder as materials for a reflecting layer. These materials with high permittivity increase the brightness of electroluminescent devices when the weight ratio of the material of the reflecting layer to the dielectric binder is (3-4):1. Recum6.

USSR

UDC: 651.143

KOVALEV, B. A., VERKHNIY, A. F., SHIRONOVA, S. T., KRAYDENOVA, A. K.
"Concerning the Question of the Possibility of Developing Low-Voltage
Electroluminescent Capacitors"

Sb. nauch. tr. VNII lyuminoforov i osobn chist. veshchestv (Col-
lected Scientific Works of the All-Union Scientific Research
Institute of Phosphors and Extra Pure Materials), 1971, vyp. 5,
pp 83-92 (from RZh-Khimiya, No 7, Apr 72, Abstract No 7L181)

Translation: The authors consider the feasibility of making low-voltage powder
electroluminescent devices. A study is made of the effect which the thickness
of the luminescent layer, the filling of the luminescent composition in the
dielectric and the permittivity of the material in the reflecting layer have
on the distribution of voltage between the reflecting and luminescent layers.
It is shown on the example of a blue electroluminescent device that a bright-
ness of 11-12 nits can be produced at a voltage of 50 V and a frequency of 400
Hz when the thickness of the luminescent layer is 10-13 microns, the weight
ratio of luminescent composition to dielectric is 3 to 1, the effective permittivity
of the reflecting layer is 600 or more, and the thickness of the
reflecting layer is 7-20 microns. Test results are presented for experimental
CRT models. Bibliography of 6 titles. Resumé.

1/1

USSR

SHIL'DKRET, S. M., TASSOV, V. D.

UDC 621.396.6-217(088.6)

"A Chassis for Electronic Equipment"

USSR Author's Certificate No 255384, Filed 25 Jul 67, Published 31 Mar 70 (from
RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V416 P)

Translation: This Author's Certificate introduces a chassis for electronic equipment which contains support plates interconnected by hinges and tie braces. As a distinguishing feature of the patent, the rigidity of the construction is improved by inclining the tie braces to the plates on both sides, and beveling the braces at the ends so that they support each other when the chassis is opened.

1/1

006

UNCLASSIFIED

PROCESSING DATE--11SEP70

TITLE--DROP ENTRAINMENT DURING MICROBUBBLING -U-

AUTHOR--GLEYM, V.G., SHILDLOVSKIY, B.R., VISHNEVETSKAYA, A.N., KHENTOV,
V.YA.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 337-41

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--WATER, STEAM BOILER, SODIUM CHLORIDE, SODIUM SULFATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0460

CIRC ACCESSION NO--AP0104073

STEP NO--UR/0080/70/043/002/0337/0341

UNCLASSIFIED

006
CIRC ACCESSION NO--AP0104073 UNCLASSIFIED
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REDN. OF STEAM QUALITY IN HIGH
PRESSURE BOILERS BY ENTRAPPED WATER DROPLETS WAS INVESTIGATED IN A
MODELING STUDY. RATE OF BUBBLE FORMATION, MECHANISMS, AND ENERGIES
REQUIRED TO BREAK UP THE BUBBLES AND THUS PERMIT THE FORMATION OF LIG.
DROPLETS ARE DISCUSSED. AN EQUATION YIELDING THE MASS (M) (G-CM PRIME2
SEC) OF DROPLETS FORMED WAS DEVELOPED. DROPLET FORMATION IN THE BREAK UP
OF 0.22 MM BUBBLES ON A POROUS CERAMIC PLATE (A) (BACTERIAL FILTER F5)
WAS OBSD. ON A PLEXIGLAS PLATE 2 CM FROM A AT AIR VELOCITIES SMALLER
THAN 0.65 CM-SEC, AND NAOL OR NA SUB2 SO SUB4 SOLNS. CONCNS. HIGHEST M
VALUES WERE OBSD. AT VELOCITIES OF SIMILAR TO 0.1 CM-SEC AND LOW,
SMALLER THAN 0.15 M, ELECTROLYTE CONCNS. FOR A 0.001M NAOL SOLN. A VALUE
OF M EQUALS 680 TIMES 10 PRIME NEGATIVE6 G-CM PRIME2 SEC WAS DETD.; THE
M VALUES AND HEIGHTS TO WHICH DROPLETS WERE CARRIED WERE LOWEST AT 0.05M
NAOL AND 0.01M NASO SUB4. CL PRIME NEGATIVE, SO SUB4 PRIME2 NEGATIVE
AND PO SUB4 PRIME3 NEGATIVE WITH HYDRATION ENERGIES OF 79, 249, AND 502
KCAL-MOL YIELDED M OF (680, 502, AND 430) TIMES 10 PRIME NEGATIVE6,
RESP.

PROCESSING DATE--11SEP70

UNCLASSIFIED

USSR

RIVLIN, L. A., SHIL'DYAYEV, V. S.

UDC 621.373:530.145.6

"A Coherent Emitter"

USSR Author's Certificate No 243107, Filed 3 Apr 67, Published 10 Apr 70 (from
RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D268 P)

Translation: This Author's Certificate introduces a coherent emitter with an odd number of parallel PN junctions. To reduce dissipative power losses and achieve coherent summation of oscillations at the emitter output, the device utilizes synchronization by a channeling unit in the form of a section of polyharmonic rectangular waveguide, the square of the ratio of the sides of this waveguide being a whole number. The emitter has one transparent face and an external mirror. N. S.

1/1

- 166 -

SHILENKO, M. P.

Life Support System

COLEBN

SO: JPRS 53388
17 JUL 71

UDC 629.78.048:633.1

CEREALS AS A POSSIBLE COMPONENT OF THE AUTOTROPHIC
LIFE IN LIFE SUPPORT SYSTEMS

(Article by G. M. Leforskiy and M. P. Shilenko, Moscow, Komsomolskaya
Biologiya i Meditsina, No. 3, 1970, pp. 22-25, submitted for
publication 23 April 1970)

Abstract: On the basis of standard evaluations of higher
plants selected for life support systems and experimental
data concerning wheat productivity in an artificial
environment, its biochemistry and compatibility with man,
it is suggested that some cereals should be extensively
studied to determine their possible use as a polyfunc-
tional component of closed ecological systems.

The capacity for higher plants to ensure both gas and water exchange
and the regeneration of the vegetable part of the human or animal diet in
life support systems makes it desirable that they be thoroughly studied in
this aspect. Researchers are faced primarily with the problem of selecting
a limited number of plants from among the quarter of a million species of
flowering plants known to botanists.

"P. Nudkin (1968a) cites the following criteria for selecting plants
for life support systems: high productivity, capacity for maximum satisfaction
of man's needs for total mass and biochemical composition, mutual biological
compatibility, and absence of volatile emanations harmful to man. As addi-
tional criteria one can mention coincidence of the optimum temperature and
air humidity for cultivated plants and man, as well as the simplicity in the
methods and equipment for preparing food from the harvest and the possibility
of preparing different dishes.

V. G. Chuchin, et al., in selecting crops, uses as a point of departure
the desirability of reproducing polysaccharides and the possibility of pre-
paring various dishes and obtaining a balanced ratio of nutrients in the
stored and reproduced foods. The weight characteristics of the higher plants

USSR

UDC 576.895.4

KOCHKAREVA, A. V., ZAGNIBORODOVA, Ye. N., ZHERNOV, I. V., ZAYTSEVA, V. I.,
SHILENKO, V. I., ZABEGALOVA, M. N., AVAKOV, S. M., TASHLIYEV, A. O., BEL'SKAYA,
G. S., and VAZHEV, A. P., Republic Antiplague Station, Institute of Zoology,
Academy of Sciences Turkmen SSR

"Regional Distribution of Ixodid Ticks in Turkmenia"

Ashkhabad, Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Biologicheskikh
Nauk, No 5, 1971, pp 36-42

Abstract: The 31 species and subspecies of Ixodid ticks (of the total of 49 living in Turkmenia) gathered from 699 geographic points and included in the collection of the station are analyzed for the distribution of their natural habitats and their geological and botanic living conditions. *Hyalomma asiaticum asiaticum* proliferates in large numbers in all four regions (clay desert, sandy desert, cultivated river valleys, and southern mountains). *H. detritum* an. *anatolicum*, *H. an. excavatum*, and *H. pl. plumbeum* thrive mainly in cultivated areas. The most numerous species are *H. as. asiaticum* and *H. numidiana turanica* living in sandy desert and *Ornithodoros tartakovskyi* living in clay desert. *Ixodes redikorzevi*, *Haemaphysalis punctata*, *Rhipicephalus schulzei*, and *R. leporis* were recorded for the first time in the republic.

1/1

USSR

BORONTSOV, L. A., SHILEYKO, A. V.

"Estimate of Information Productivity of a Digital Model"

Analogovaya i Analogo-Tsifr. Vychisl. Tekhn. [Analog and Analog-Digital Computer Equipment -- Collection of Works], No 5, Moscow, Sov. Radio Press, 1973, pp 86-91 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V617, by the authors).

Translation: The definition of information productivity of a digital model is a component part of the general problem of selection of the best structure. This article studies methods of estimation of the information productivity of a digital model from the standpoint of the theory of ϵ entropy of sets. Using the estimates produced, algorithm quality criteria are introduced, on the basis of which an algorithm which can be selected which is optimal in the sense of this criterion.

UDC

SHILEYKO, A. V.

UDC: 8.74

"Concerning a Method of Evaluating the Productivity and Effectiveness of
Computer Automata"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Works of the Moscow Institute of Rail-
way Transportation Engineers), 1971, vyp. 395, pp 158-183 (from RZh-Kiber-
netika, No 6, Jun 72, Abstract No 6V490)

Translation: Criteria are proposed for evaluating the productivity and
effectiveness of computer automata. These criteria are based on measures
of match between the operation of the automaton and its ambient medium.
The physical sense of these criteria is demonstrated by means of a thermo-
dynamic model.

1/1

- 39 -

UNCLASSIFIED
REGULARITY IN THE DISTRIBUTION OF GOLD IN ROCKS AND MINERALS,,
ILLUSTRATED BY RADIOACTIVATION ANALYSIS DATA -U-
AUTHOR--(05)-ROZHKOV, I.S., RAKOVSKIY, E.YE., BERENSHTEYN, L.YE.,
SEREBRYANYI, B.L., SHILIN, N.L.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(4), 927-30
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--GOLD, ROCK, MINERAL, GEOCHEMISTRY, RADIOACTIVITY MEASUREMENT,
NEUTRON ACTIVATION ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0569
CIRC ACCESSION NO--AT0126315
STEP NO--UR/0020/70/191/004/0927/0930
UNCLASSIFIED

273 045
 CIRC ACCESSION NO--AT0126315 UNCLASSIFIED PROCESSING DATE--27NOV70
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RADIOACTIVATION SAMPLING FOR AU IN
 ROCKS AND MINERALS BY USING SUBSTOICHIOMETRIC SEPN. IS VERY RELIABLE AND
 HAS A VERY GOOD REPRODUCIBILITY (SCATTERING OF PARALLEL DETNS. SMALLER
 THAN 20PERCENT). IT REQUIRES, HOWEVER, A SAMPLE WEIGHING LARGER THAN OR
 EQUAL TO 100 MG. THE EFFECT OF NATURAL SCATTERING OF AU ON THE
 REPRODUCIBILITY OF RESULTS OF RADIOACTIVATION ANAL. WAS INVESTIGATED.
 THE SCATTERING OF AU DISTRIBUTION IN ROCKS AND MINERALS DEPENDED ON
 NUMEROUS FACTORS; FORM OF AU OCCURRENCES IN THE MINERAL, STRUCTURAL AND
 TEXTURAL CHARACTERISTICS OF ROCKS, AND INTENSITY OF SECONDARY
 ALTERATIONS. THE ERROR OF AN ANAL. DETN. CONSISTS OF 2 COMPONENTS:
 ERROR RELATED TO THE REPRODUCIBILITY OF THE METHOD (SIGMA SUBR) AND
 ERROR RELATED TO HETEROGENEITY OF AN ANALYZED SAMPLE (SIGMA SUBH). THE
 SUMMARY ERROR (SIGMA SIGMA) IN DETG. THE AV. CONTENT OF AN ELEMENT IN AN
 ANALYZED SAMPLE IS, SIGMA SIGMA PRIME2 EQUALS SIGMA SUBR PRIME2 PLUS
 SIGMA SUBH PRIME2. THE RESULTS OF LARGER THAN 200 NEUTRON ACTIVATION
 DETNS. OF AU IN ROCKS AND MINERALS, PROCESSED STATISTICALLY, SHOWED THAT
 THE NATURAL HETEROGENEITY IN AU CONTENTS IN AMPHIBOLE GABBRO, BIOTITE
 AMPHIBOLE DIORITE, BIOTITE AMPHIBOLE GRANODIORITE, GRANITE VEIN IN
 GRANODIORITE, APLITE VEIN IN GRANODIORITE, AND APLITE VEIN IN GABBRO IS
 MUCH HIGHER THAN THE ERROR OF REPRODUCIBILITY OF THE METHOD (SIGMA SUBR
 SIMILAR TO 20PERCENT). NATURAL HETEROGENEITY WAS SO HIGH THAT THE AU
 CONTENTS IN INDIVIDUAL BATCHES OF THE SAME SAMPLE DIFFERED FROM EACH
 OTHER BY LARGER THAN 5 TIMES.

UNCLASSIFIED

EXTRACT--THEREFORE, IF SIGMA SUBR IS SMALL, THERE ARE REASONS TO
USE THE MOST ACCURATE METHODS OF DETN.; BUT IF SIGMA SUBH IS MUCH HIGHER
THAN SIGMA SUBR, THEN THE USE OF ACCURATE AND USUALLY EXPENSIVE ANAL.
METHODS IS SENSELESS IF DETN. IS MADE FROM SMALL SAMPLES
NONREPRESENTATIVE WITH RESPECT TO THE INITIAL OBJECT.
TSENT. NAUCH. ISSLED. GORNORAZVED. INST. TSVET. REDK. BLAGO ROD. METAL.,
MOSCOW, USSR. FACILITY:

UNCLASSIFIED

Acc. Nr.: AP0040593

Ref. Code: UR 0292

USSR

UDC 621.373.001.5 JPRS 52248

BUKREYEV, L. F., Engineer and SHILIN, N. V., Candidate of Technical Sciences

"Basic Characteristics and Parameters of TI-100-2 Shock Generators"

Moscow, Elektrotehnika, No 1, Jan 70, pp 17-21

Abstract: This article presents the test results of two TI-100-2 shock generators, built at the "Elektrosila" plant, designed to be used as sources of electric energy in testing high voltage equipment for breakdown capacity and electrodynamic and thermal strength. The TI-100-2 is a 10 kv., three-phase synchronous 3000 rpm shock generator of 100-Mw rated capacity and 2500-Mw short circuit capacity at 12 kv and 0,0070ohm external reactance. A diagram of the energizing circuit is presented. The operation of two TI-100-2 shock generators was evaluated in relation to their use at the Scientific Research Center for Testing High Voltage Equipment (NITS VVA). The results were used for mastering the parallel running of two generators, which presents

Reel/Frame
19750128

AP0040593..

some difficulties in the case of shock generators. For the first time, the basic parameters of shock generators were determined, taking into account the effects of two damper contours: a special damper windings and a massive rotor barrel.

Shock generator characteristics and parameters were determined in accordance with GOST 10169-62. The agreement obtained between the experimental results and the calculated values is satisfactory. Original article has 4 figures and 4 tables.

19750129

USSR

UDC 621.373.001.5

BUKREYEV, L. F., Engineer and SHILIN, N. V., Candidate of Technical Sciences

"Basic Characteristics and Parameters of TI-100-2 Shock Generators"

Moscow, Elektrotehnika, No 1, Jan 70, pp 17-21

Abstract: This article presents the test results of two TI-100-2 shock generators, built at the "Elektrosila" plant, designed to be used as sources of electric energy in testing high voltage equipment for breakdown capacity and electrodynamic and thermal strength. The TI-100-2 is a 10 kv., three-phase synchronous 3000 rpm shock generator of 100-Mw rated capacity and 2500-Mw short circuit capacity at 12 kv and 0,0070ohm external reactance. A diagram of the energizing circuit is presented. The operation of two TI-100-2 shock generators was evaluated in relation to their use at the Scientific Research Center for Testing High Voltage Equipment (NITS VVA). The results were used for mastering the parallel running of two generators, which presents some difficulties in the case of shock generators. For the first time, the basic parameters of shock generators were determined, taking into account the effects of two damper contours: a special damper windings

1/2

USSR

KARAKHANYAN, E. R., NOSOV, Yu. R., ~~SHILIN, V. A.~~

UDC: 621.382.333.3.001.5

"Time-Lag Analysis of the MDS-Transistor"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 4, Apr 72, pp 856-862

Abstract: Processes of charge behavior in the channel of the MDS-transistor are analyzed for the case of switching by a powerful signal. An equation is derived which describes the high-voltage characteristics of the MDS-transistor with regard to modulation of the charge of the substrate and electrode mobility. The equation is analyzed on a digital computer, and the results are presented in the form of curves for actuating time as a function of the dopant concentration in the substrate and the voltages across the electrodes. The results of the analysis show that accounting for the effects of charge modulation and electrode voltage mobility doubles the actuating and cutoff time. Analytical expressions are found for evaluating the actuating time of the MDS-transistor. The results of this work can be used to determine the frequency limit of the transistor and to evaluate the effect of the inherent time lag of the device on transient processes in high-speed circuits.

1/1

APPROVED FOR RELEASE: 07/20/2001

CIA-RDP86-00513R002202920017-6"

USSR

BUKREYEV, L. F., et al., Moscow, Elektrotehnika, No 1, Jan 70, pp 17-21

and a massive rotor barrel.

Shock generator characteristics and parameters were determined in accordance with GOST 10169-62. The agreement obtained between the experimental results and the calculated values is satisfactory. Original article has 4 figures and 4 tables.

2/2

AA0046431

S

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General.
Derwent, 1-70

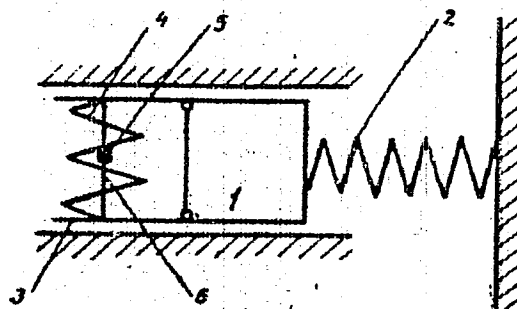
228391 DRY FRICTION DAMPER consisting of a shock
-absorbing mass 1 with a flexible link 2
with the frame, dry friction shoes 3 coupled to mass
1, and an expansion spring to provide the necessary
amount of dry friction. The damper is designed to
reduce normal pressure on the contact surfaces when
there is a change in direction of the absorbing
mass by incorporating an inertia mass 5 which has
a flexible link 6 with the shoes. During
oscillation in a system inertia mass 5 undergoes
various accelerations, and the greater the
acceleration on the inertia mass the smaller is
the effort with which shoes 3 are pressed against
the friction surfaces. With a sufficiently rigid
link 6 the acceleration of the inertia mass is
virtually equal to the acceleration of the
absorbing mass which means that with maximum
acceleration of the absorbing mass the dry friction
force will be the least.

24.4.67. as 1149833/25-27, SHILIN, W.B. (4.6.69)
Bul. 31/8.10.68. Class 47a Int. Cl. F 06f.

18

19781647

AA0046431



2/12

19781648

11/1

1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SYNTHESIS OF CYCLIC HEXAPEPTIDES CONTAINING L AND D ALANINE AND
GLYCINE RESIDUES -U-
AUTHOR--(03)-IVANOV, V.I., SHILIN, V.V., OVCHINNIKOV, YU.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 924-31
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PEPTIDE, CHEMICAL SYNTHESIS, ALANINE, GLYCINE, CHROMATOGRAPHY,
NUCLEAR MAGNETIC RESONANCE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--3004/0465 STEP NO--UR/0079/70/040/004/0924/0931
CIRC ACCESSION NO--AP0131102
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 012

CIRC ACCESSION NO--AP0131102

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE N HYDROXYSUCCINIMIDE OR P NITROPHENYL ESTER, AS WELL AS THE AZIDE METHOD, WERE USED TO PREP. PROTECTED POLYPEPTIDES, WHICH WERE THEN CONVENTIONALLY CYCLIZED TO CYCLOHEXAPEPTIDES WITH ALANINE AND GLYCINE RESIDUES IN VARIOUS POSITIONS IN A PLAN OF STUDY OF CONFORMATIONS OF PEPTIDE RING SYSTEMS. THE INTERMEDIATES USED IN THE SYNTHESIS (CHARACTERIZED BY CHEM. ANALYSIS AND M.P.S.) WERE CYCLIZED BY TREATMENT OF THE P NITROPHENYL ESTERS WITH HBR IN ACOH TO REMOVE THE BLOCKING CARBOBENZOXY GROUPS, THEN HEATED IN PYRIDINE SEVERAL HR TO EFFECT THE CYCLIZATION OF SOME, WHILE OTHERS IN THE FORM OF TER-TBUTOXYCARBONYL DERIVS. OF PEPTIDE HYDRAZIDES WERE TREATED WITH HBR IN ACOH, THEN WITH HCL AND NANO SUB2 AND H SUB2 O. THE FOLLOWING CYCLOPEPTIDES WERE REPORTED. D-ALA-GLY SUB5, D-ALA-D-ALA-GLY SUB4, D-ALA SUB3-GLY SUB3, D-ALA-GLY-D-ALA-GLY SUB3, (D-ALA-GLY)SUB3, D-ALA SUB3-L-ALA SUB3, (D-ALA-L-ALA)SUB3, AND D-ALA-L-ALA-D-ALA-(L-ALA)SUB3; ALL MELTED IN THE INTERVAL OF 300-300DEGREES AND WERE CHARACTERIZED CHROMATOGRAPHICALLY AND BY NMR SPECTRA. FACILITY: INST. KHIM. PRIK SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

AA0040659

S

Skilling, Yu. B.

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

241486 THERMAL STRAIGHTENING OF THINWALLED FINNED CYLINDERS reduces residual strain by heating the peripheral parts of the fins and outer case of the cylinder to 300-350°C to cope with alloy steel blanks. The thinwalled, split turbine low pressure cylinder has its peripheral fin parts heated as stated and once the peripheral zone has heated through and the outer case, forces begin to operate from inside in the bolt bores joining the cylinder and these produce a moment which bends each half of the cylinder relative to an axial plane perpendicular to the horizontal joint plane and in a direction opposite to the bend which occurs during the primary deformation of the cylinder. Thus this moment restores the concentricity.
22.1.68 as 1213096/22-1. KNABE.A.G. et al (28.8.69)
Bul 14/18.4.69. Class 18c. Int.Cl. C 21 d.

19750248

AA0040659

AUTHORS: Knabe, A. G.; Shilin, Yu. P.; Klurfel'd, I. M.; and
Ostrovskiy, S. I.

19750249

USSR

UDC 621.165:536.5.002.56

TEPLITSKIY, M. G., SHILIN, YU. P.

"Improvement of the Operating Control of the Thermal State of the Turbine Unit K-160-130 KHTGZ"

Energ. i elektrifikatsiya. Nauchno-proizv. sb. (Power and Electrification. Scientific Production Collection), 1970, No 5 (53), pp 25-27 (from RZh-Turbostroyeniye, No 1, Jan 71, Abstract No 1.49.53)

Translation: Experience in operating the K-160-130 turbines and investigations of the operating conditions revealed significant deficiencies of the measuring systems and the measuring and control instruments used earlier. A new temperature control system has been developed for the metal of the turbine parts and new designs of measuring and control instruments have been drawn. It has been discovered that it is necessary to monitor the temperature of the parts in the transient modes by means of the EPP-09 recording instrument. There are 2 illustrations.

1/1

- R5 -

Plant Pathology

USSR

UDC 632

BEKKER, E. E., DOVLETHURADOV, I. D., PUSHKAREVA, I. D., POLETAYEVA, V. T.,
SHILINA, S. G., and YASAKOVA, E. I., Institute of Botany, Academy of Sciences
Turkmen SSR

"The Nature and Biosynthesis of the Toxin of Fusarium Wilt Pathogen, the
Mechanism of Its Action, and Its Possible Transformation in the Cotton
Plant"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 5, Sep/
Oct 71, pp 749-754

Abstract: Analysis of purified extracts of *Fusarium oxysporum* f. *vasinfectum* culture liquid confirmed that the toxin of fusarium wilt of the fine-fibred cotton plant is fusaric acid. The severity of wilt depends mainly on the rate of production of fusaric acid by the pathogen. Biosynthesis of this toxin appears to proceed through formation of tryptophan and is inhibited by substances participating in transmethylation, such as cobalt or methionine. Plant resistance is augmented in the presence of cobalt, vitamin B₁₂, and pyridine alkaloids, and is considerably reduced in the presence of thiazine. The mechanism of action of fusaric acid probably involves competition between the product of its decarboxylation, 3-methylpyridine, and dehydratase cofactors. Immunity may be due to detoxification of fusaric acid through its transformation into fusaric acid.

USSR

UDC 615.285.7.015:612.018:547.756

KHAYKINA, B. I., and SHILINA, V. F., Laboratory of Biochemistry, All Union Scientific Research Institute of Hygiene and Toxicology of Pesticides, Polymer and Plastic Substances, Kiev

"The Effect of Some Chlorinated Organic Pesticides on Serotonin Metabolism"

Moscow, Farmakologiya i Toksikologiya, Vol 34, No 3, May-Jun 71, pp 357-359

Abstract: DDT administered orally in 70 mg/kg dose for 2 days or 3.5 mg/kg dose daily for 5 months (corresponding to 1/5 and 1/100 LD₅₀ respectively) elevated urinary excretion of 5-hydroxyindoleacetic acid by 188 and 105%, respectively. When Lindane was administered in comparable LD₅₀ doses (34 mg/kg for two days or 1.7 mg/kg daily for 3 months) the excretion of 5-hydroxyindoleacetic acid was increased by 160 and 100%, respectively. This suggests that a change takes place in the metabolism of serotonin.

1/1

USSR

UDC 575.24:576.851.5

PROZOROV, A. A., KALININA, N. A., and SHILINA, V. N., All-Union Scientific Research Institute of Genetics and Selection of Industrial Microorganisms, Moscow

"Investigation of Bacillus subtilis Mutants With Altered Capacity to Form Competent Cells"

Moscow, Genetika, Vol 7, No 12, 1971, pp 83-93

Abstract: A total of 110 almost completely incompetent mutant strains were separated from the parent strain Bacillus subtilis SB-25. Most of them lacked the competence-inducing factor, were incapable of spontaneous autolysis as a result of the absence of the lytic enzyme and because of a restructured cell wall, and displayed altered sporulation. In some mutants with inhibited autolysis, the transformation capacity was partly restored after addition to the culture of a small quantity of lysozyme. The competence of a few mutants was increased as a result of a higher concentration of the competence factor. In several mutants, the causes of their inhibited competence could not be elucidated. Evidence indicates that the competence factor is not identical with the autolytic enzyme and that the role of autolysis in the process of transformation cannot be reduced to the secretion of the competence factor.

1/1

USSR

GARKUSHA, N. G., DVORNIKOV, V. I., SHILINGOVSKIY, N. I.

"Dynamic Processes in the Brake Cables When a Lift Container is Stopped by Parachute in a Rigidly Reinforced Channel"

Stal'n. Kanaty., No 9 [Steel Cables, No 9 -- Collection of Works], Kiev, Tekhnika Press, 1972, pp 319-321, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 V1162, by the author's).

Translation: The dynamic loads arising in brake cables and rigid reinforcing wires when a lift container is stopped by PKL parachute traps are studied. It is assumed that the brake cable is a viscoelastic rod with a rigidly attached upper end and free lower end, and that the parachute provides instantaneous "dead" capture with any finite velocity of the container.

1/1

SHILINIS, Yu. A.

medical sciences

UDC: 61(991):061.22.043

FIFTH PLenary SESSION OF THE BOARD OF THE ALL-UNION SCIENTIFIC SOCIETY OF MEDICAL HISTORIANS COMMEMORATING THE FIFTIETH ANNIVERSARY OF THE SOVIET UNION
Article by Yu. A. Shilinis, Candidate of Medical Sciences, Secretary-
General of the All-Union Scientific Society of Medical Historians (Moscow);
Moscow, Sovetskoye Zdravookhraneniye, Russian, No 11, 1972, p. 891

The fifth plenary session of the board of the All-Union Scientific Society of Medical Historians convened on 15-19 May 1972 in Vilnius. In addition to members of the board, about 200 instructors from medical institutes, scientific and practical health workers participated in the work of the plenum; they were invited by the Central Institute for Advanced Training of Physicians and the chair of social hygiene and public health organization of Vilnius Medical Institute Irena N. I. Pirogov to a seminar-symposium dealing with urgent problems in history of medicine and public health. The following papers were delivered at the plenum and discussed: "The Problem of Historicism in the Light of the Decisions of the 24th Congress of the CPSU and Immediate Tasks of the All-Union Society of Medical Historians in Connection with the Forthcoming Fiftieth Anniversary of the USSR," by Professor M. I. Narukhov; "Fiftieth Anniversary of the Formation of the USSR and Development of Public Health in the Union Republics," by Professor V. G. Vasil'yev and L. Ye. Shapitov; "The International Role of Medical Historians of the USSR," by Professor B. D. Petrov; "The Forthcoming First All-Union Congress of Medical Historians," by Yu. A. Shilinis, Candidate of Medical Sciences.

In the resolutions adopted with reference to the papers, the plenum set some concrete tasks before medical historians to implement the decisions of the 24th Congress of the CPSU and the Decree of the Central Committee of the CPSU "On Preparation for the 50th Anniversary of the Formation of the Union of Soviet Socialist Republics." The boards of the republics and municipal societies were advised to organize commemorative scientific conferences, exhibits, publish items in the press summing up the achievements of Soviet public health, medical science, and higher medical education in all Union republics.

It was resolved by the plenum to convene the First All-Union Congress of Medical Historians. It will convene from 3 to 6 October 1973, in

JKS-57575
2 Jan 73

- 99 -

USSR

UDC: 51:621.391

CHIRKOV, M. K., SHILKEVICH, T. P.

"On the Realizability of Probabilistic Automata by Automata With Random Inputs"

V sb. Metody vychisleniy (Computational Methods--collection of works), Vyp. 6, Leningrad, Leningrad University, 1970, pp 127-136 (from RZh-Kibernetika, No 1, Jan 71, Abstract No 1V364)

Translation: In a previous paper (RZhMat, 1968, 12V293) an investigation was made of the problem of synthesizing a self-contained probabilistic finite automaton in the form of a combination of a non-autonomous deterministic finite automaton and a source of a random sequence of symbols. In another paper (RZhMat, 1968, 7V299) a similar problem was examined as applied to a non-autonomous probabilistic finite automaton with marked states operating in some random medium. In the article being abstracted here, the given problem is considered in the general case. A method is proposed for synthesizing and evaluating the required number of inputs. G. Blokhina.

1/1

1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--FABRICATION OF LARGE SCALE PARTS BY VACUUM MOLDING -U-
AUTHOR--(03)-SHILKIN, G.D., SVIRINA, R.D., ZILBERLEY, B.P.
COUNTRY OF INFO--USSR
SOURCE--PLAST. MASSY 1970, (3), 60
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--PLASTIC-FABRICATION, POLYSTYRENE RESIN, TEXTILE INDUSTRY
MACHINERY/(U)UP IE POLYSTYRENE RESIN, (U)ATPRI20 WEAVING MACHINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0580 STEP NO--UR/0191/70/000/003/0060/0060
CIRC ACCESSION NO--AP0119498
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0119498

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FENCES FOR A WEAVING MACHINE
ATPR-120 WERE MANUFD. FROM HIGH IMPACT POLYSTYRENE UP-IE (I) BY VACUUM
MOLDING. MOLDED I SHEETS (3.8-4.0 MM THICK) WERE SUCESSFULLY TESTED IN
INDUSTRY.

UNCLASSIFIED

USSR

UDC: 621.391:519.27

SHILKIN, V. A.

"Effect of Phase Characteristic Nonlinearity in a Communication Channel on the Accuracy of the Determination of Message Limits in Multichannel Discrete Information Transmission Systems"

V sb. Radioelektron. v nar. kh-ve SSSR. Ch. 2 (Radioelectronics in the National Economy of the USSR, Part 2--collection of works) Kuybyshev, 1970, pp 265-269 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A35)

Translation: The relative shift is considered of the limits of signal channel transmissions caused by the nonlinearity of the communication channel phase characteristic. A determination is made of the permissible delay time for edge channel signals from the specified probability of erroneous reception in individual channels and from the permissible deterioration in the quality of reception. One illustration, bibliography of four. N. S.

1/1

- 77 -

Thermomechanical Treatment

USSR

UDC: 621.789-977:669.14.018.254

SMIRNOV, M. A., SHTEYNBERG, M. M., GUREVICH, L. G., EILATOV, V. I., SHILKOVA, T. S., Chelyabinsk Polytechnic Institute

"Hardening of Stamp Steels During High Temperature Thermomechanical Treatment"

Metallovedeniye i Termicheskaya Obrabotka Metallov, No 9, 1973, pp 29-31.

Abstract: The use of high temperature heat treatment and mechanical working can increase the mechanical properties of many tool steels. This article studies the influence of this treatment on stamp steels for hot deformation. Steels studied included types 5KhNV, 4Kh5MFS, 4Kh4M2VFS (DI22) and 3Kh2V8F, the latter three of which show a tendency toward dispersion hardening. Billets 19 x 19 mm, after austenitizing, were rolled in two passes at different temperatures with reductions of 37%, then quenched in oil. The heating temperature for the high temperature heat treatment and mechanical working was 850° C for type 5KhNV, 1040° C for type 4Kh5MFS, 1070° C for type 4Kh4M2VFS and 1100° C for type 3Kh2V8F. All steels were then tempered at 450-650° C. The tensile strength, impact toughness and thermal stability were determined. It was found that high temperature plastic deformation accelerates the

1/2

USSR

Smirnov, M. A., Shteynberg, M. M., Gurevich, L. G., Filatov, V. I., Shilkova, T. S., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 9, 1973, pp 29-31.

breakdown of austenite in all the steels tested, manifested as a decrease in the incubation period and an increase in the breakdown rate. However, the incubation period of the intermediate conversion is increased, the rate and completeness of conversion decrease. Thus, the hardenability of the steels is increased overall. Only the steels with tendencies to dispersion hardening show high stability of thermomechanical hardening during tempering. A significant increase in strength properties of these steels at room temperature and elevated temperatures is observed after deformation below the A_{c3} point. High temperature heat treatment and mechanical working decrease the brittle-rupture tendency of 4Kh5MFS and 4Kh4M2VFS steels only after deformation at 1000° C.

2/2

- 52 -

1/2 039 UNCLASSIFIED PROCESSING DATE--11SEP70 2
TITLE--MECHANICAL PROPERTIES OF STRUCTURAL STEELS AFTER NORMAL HARDENING
AND AUSTEMPERING -U-
AUTHOR--USHAKOV, V.G., GONCHAR, V.N., SHILKOVA, T.S., SHTEYNBERG, M.M.,
FILATOV, V.I.
COUNTRY OF INFO--USSR
SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (2) 2-5
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--MECHANICAL PROPERTY, ISOTHERMAL TRANSFORMATION, METAL
HARDENING, ALLOY DESIGNATION, LOW ALLOY STEEL, STRUCTURAL STEEL, CRACK
PROPAGATION, METAL HEAT TREATMENT, AUSTENITE, BRITTLE
FRACTURE/(U)30KHGSN2A LOW ALLOY STEEL, (U)30KHGSNMA LOW ALLOY STEEL,
(U)30KHGSN2MA LOW ALLOY STEEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/1307 STEP NO--UR/0129/70/000/002/0002/0005
CIRC ACCESSION NO--AP0106084
UNCLASSIFIED

2/2 . 039

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106084

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS OF ISOTHERMAL DECOMPN. OF SUPERCOOLED AUSTENITE WAS STUDIED TO ESTABLISH THE OPTIMAL AREA OF ISOTHERMAL HARDENING FOR STEELS 30KHGSN2A, 30KHGSNMA, AND 30KHGSN2MA. THE MECH. PROPERTIES OF THE STEELS, PREPD. UNDER INDUSTRIAL CONDITIONS, WERE STUDIED WITH DEPENDENCE ON TEMP. AND THE TIME HELD IN THE HOT MEDIUM AS WELL AS THE TEMP. OF THE SUBSEQUENT ANNEAL. THE MECH. PROPERTIES FOLLOWING ISOTHERMAL HARDENING WERE COMPARED WITH THE PROPERTIES FOLLOWING NORMAL HARDENING AND ANNEAL. UNDER SIMILAR CONDITIONS, STRENGTH PROPERTIES OF THE 3 STEELS, ISOTHERMALLY HARDENED, SHOW LESS TENDENCY TO BRITTLE FRACTURE THAN FOLLOWING NORMAL HARDENING AND ANNEAL, SINCE IN THE LATTER INSTANCE, ANNEAL COINCIDES WITH DEVELOPMENT OF BRITTLENESS. ISOTHERMAL HARDENING OF THE STUDIED STEELS INCREASES THE FUNCTION OF CRACK PROPAGATION AS COMPARED WITH NORMAL TEMPER AND ANNEAL AT SIMILAR STRENGTHS.

UNCLASSIFIED

USSR

UDC 551.481.1

ROSSOLIMO, L. L., and SHIL'KROT, G. S., Institute of Geography, Academy of Sciences USSR

"The Effects of Induced Aeration of a Hypereutrophicated Lake"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya, No 4, Jul/Aug 71, pp 48-58

Abstract: A study was made of the effects of induced aeration on the regime of a hypereutrophicated lake during freezing. To eliminate increasing stagnation, which interferes with the use of lake or reservoir water, destratification was achieved by induced mixing and agitation (circulation) of water, resulting in aeration which changed the chemical indices of stagnation and eliminated its undesirable effects. Two electrically-driven compressors pumped air into two perforated rubber hoses laid on the bottom of the lake, with several small-diameter pipe nozzles directed upward, thus keeping open air holes (polynylas) in the ice cover. This produced continuous mixing and circulation of the entire water mass of the lake during the freezing, maintained an open water area, and decreased winter stagnation. A complete absence of hydrogen sulfide, a very important component of the winter regime of the lake, was observed, together with a disruption of the iron and

1/2

1/2 013 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--DETERMINATION OF BIFURCATION VALUES OF LOAD FOR ASYMMETRICALLY
LOADED SHELLS OF REVOLUTION WITH ALLOWANCE FOR ASYMMETRIC DEFORMATION
AUTHOR--(02)--GERYAKU, I.D., SHILKRUT, D.I.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIYA NAUK SSSR, IZVESTIYA, MEKHANIKA TVERDOGO TELA, MAR.--APR.
1970, P. 184-190
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--SHELL STRUCTURE STABILITY, BIBLIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0287

STEP NO--UR/0484/70/000/000/0184/0190

CIRC ACCESSION NO--AP0124046

UNCLASSIFIED

2/2 013

CIRC ACCESSION NO--AP0124046
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--20NOV70

ABSTRACT. ANALYSIS OF THE OCCURRENCE OF
BIFURCATION TYPE STABILITY IN GEOMETRICALLY NONLINEAR SHELLS OF
REVOLUTION UNDER AXISYMMETRICAL TRANSVERSE LOADS. A METHOD FOR
DETERMINING THE BIFURCATION POINTS IN SUCH SHELLS IS DEVELOPED AND IS
APPLIED TO SEVERAL SPECIFIC PROBLEMS OF BIFURCATION. THE EXISTENCE OF
TWO TYPES OF BIFURCATION POINTS UNDER TENSION AND COMPRESSION IS
ESTABLISHED.

UNCLASSIFIED

USSR

UDC 613.263:633.491:631.547.1.04

SHILLINGER, Yu. I. and KAMAL'DINOVA, Z. M., Laboratory for the Hygienic Studies of Food Additives and Institute of Nutrition, Academy of Medical Sciences USSR, Moscow

"Possible Toxicity of Potatoes Irradiated by a Flux of Fast Electrons and by γ -Radiation to Retard Sprouting"

Moscow, Voprosy Pitaniya, No 6, Nov/Dec 73, pp 50-55

Abstract: Irradiating potatoes may result in the production of mutations in organisms that eat them. In order to test this hypothesis potatoes irradiated with a dose of 30 kilorads and 20 kilorads of fast electrons were fed to white rats and the results analyzed by a dominant lethal mutations method. A mutation index is calculated reflecting the presence of mutation of dominant traits. A general mortality rate is also calculated. An examination of a number of these indicators and others relative to the number, viability and genetic mutations indicated that in neither case could genetic damage be documented.

1/1

- 27 -

1/2 -026
UNCLASSIFIED
PROCESSING DATE--02OCT70
TITLE--HYGIENIC INVESTIGATION OF FOOD PRODUCTS CANNED WITH AN ANTIBIOTIC
NYZINE -U-
AUTHOR--(03)-BUGURODITSKAYA, V.P., SHILLINGER, YU.I., OSIPOVA, I.V.
COUNTRY OF INFO--USSR
SOURCE--GIGIYENA I SANITARIYA, 1970, NR 5, PP 37-40
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--FOOD CANNING, ANTIBIOTIC, TOXICITY/(U)NYZINE ANTIBIOTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1643
STEP NO--UR/0240/70/000/005/0037/0040
CIRC ACCESSION NO--AP0112637
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112637

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VEGETABLE PRODUCTS CANNED WITH AN ANTIBIOTIC NYZINE WERE EXAMINED FOR RESIDUAL CONTENT OF THE COMPOUND. GREEN PEAS WERE FOUND TO CONTAIN FROM 25 TO 40 MG AND POTATOES AND TOMATOES UP TO 100 MG OF NYZINE PER KILOGRAM WEIGHT OF THE PRODUCT EXAMINED. THESE PRODUCTS HAD NO NOXIOUS EFFECT ON EXPERIMENTAL MICE. NYZINE MAY BE CONSIDERED TO BE NONTOXIC IN AMOUNTS IT IS USED IN FOOD CANNING INDUSTRY. FOOD PRODUCTS TREATED WITH NYZINE ARE QUITE INNOCUOUS AND MAY BE USED WITHOUT RESTRICTIONS. FACILITY: INSTITUT PITANIYA AMN SSSR, MOSCOW.

UNCLASSIFIED

USSR

UDC 621.382

BASAN, A.R., GABASHVILI, A.B., BOBISSE, N.D., BARNHED, K.G., KONOVALENKO, B.M.,
SHILLO, A.G.

"Isothermic Annealing Of Radiation Defects In Ge Irradiated By Fast Electrons
At 77° K"

V sb. Radiats. fiz. nemet. kristalloy (Radiation Physics Of Nonmetallic
Crystals--Collection Of Works), Vol 5, Part 1, Kiev, "Nauk.dumka," 1971, pp
207-210 (from Riz--elektronika i yeye primeneniye, No 10, October 1971, Abstract
No 105404)

Translation: The results are presented of an investigation of the processes of
isothermic annealing of Ge at certain stages of reinsertion of the initial con-
centration of current carriers. It is shown, for example, that at the stage of
abrupt reinsertion of the concentration of electrons during annealing of speci-
mens with a resistivity of 1--10 ohm. cm., doped with antimony, after irradiation
by fast electrons, a complex process of change of the complexes of defects takes
place. For the process of reinsertion of the concentration at $T = 77^{\circ} \text{C}$ an
activation energy of 1.1 plus or minus 0.1 ev is obtained and for the process
of forming a level, 1.7 plus or minus 0.2. During annealing after irradiation
at a 245°C temperature on p-type specimens with a resistivity of 5 ohm.cm, the
activation energy equals 0.95 plus or minus 0.1 ev at the stage of reinsertion
of holes. Here a simple bimolecular process takes place. 4 ref. I.M.
1/1

USSR

UDC 5.35.215.1

BASHAN, A. R., GERASIMOV, A. B., DOLIDZE, N. D., KATSIDZE, N. G.,
KONOVALENKO, B. M., SHILLO, A. G.

"Concerning 'Photosensitive' Defects in Ge Irradiated at $T = 77^\circ \text{K}$ "

V sb. Radiats. fiz. nemet. kristallov (Radiation Physics of Nonmetallic Crystals -- Collection of Works), Vol 3, Part 1, Kiev, "Nauk. dumka," 1971, pp 210-216 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B236)

Translation: Photo-sensitive defects in Ge were studied, which form during irradiation of crystals by electrons at 77°K . If after annealing, the irradiated crystals are illuminated by white light, then the concentration of holes increases and remains constant after cessation of the illumination. N-type specimens doped with Sb and As, which changes the type of conductivity as a result of irradiation, and also p-type specimens doped with Ga were investigated. It is assumed that the effect of the action of light on the concentration of holes is the result of a change of the structure of the defects during heating and illumination. 3 ill. 6 ref. I. V.

1/1

- 114 -

USSR

UDC 62-504

SHIL'MAN, S. V., Gor'kiy State University

"Investigation of the Dynamics of Nonlinear, Automatic Pulsed Systems"

Gor'kiy, Izvestiya VUZov: Radiofizika, Vol 15, No 11, 1972, pp 1692-1699

Abstract: The author considers nonlinear pulse systems in which the non-linear link may be distinct from the pulse element. Exact equations are derived for determining periodic modes and analyzing their stability. Resonance and nonresonance cases are considered. An approximation method of finding periodic modes is given which generalizes the discrete analog of the harmonic balance method.

1/1

- 18 -

USSR

UDC 621.355.8(088.8)

MOZALEVSKAYA, V. A., ~~SHIL'NIKOV, A. I.~~, YABLOKOVA, I. Ye., KAZAKEVICH, G. Z.
"An Alkaline Battery"

USSR Author's Certificate No 300914, Filed 11/09/69, Published 26/05/71,
(Translated from Referativnyy Zhurnal, Khimiya, No 2, 1972, Abstract No
2 L217 P from the Resume).

Translation: An alkaline battery is suggested, for example a silver-zinc battery, containing an additional electrode (E), connected to the positive E of the battery, differing in that in order to stabilize the voltage during the process of operation of the battery, this additional E, made for example, of manganese dioxide, is made with a more positive redox potential than the positive E. The additional E is made by smearing an active mass with graphite (10%) and binder (3% PVA solution) on a copper lattice.

1/1

- 28 -

USSR

UDC 621.372.542.29

SHIL'NIKOV, Yu. R., FILIPPOV, V. V., GALAKTIONOVA, G. M.

"A Ferrite Filter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzny, Tovarnyye Znaki,
No 5, Feb 72, Author's Certificate No 327541, Division H, filed 28 Sep 70,
published 26 Jan 72, p 155

Translation: This Author's Certificate introduces a ferrite filter for low frequencies in the microwave band. The filter contains a transmission line, an electromagnet and a single-crystal ferrite disc. As a distinguishing feature of the patent, losses are reduced and the range of frequency adjustment is increased by locating the above-mentioned ferrite disc inside a polycrystalline ferrite toroid whose height is equal to the thickness of the disc.

1/1

- 51 -

1/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--AROMATIC HYDROCARBONS. XXXVIII. HYDROCARBONS OF THE ANTHRACENE
SERIES IN DIENE SYNTHESIS -U-
AUTHOR-(04)-SKVARCHENKO, V.R.; SHILNIKOVA, A.G., ZAKHAROVA, G., LEVINA,
R.YA.
COUNTRY OF INFO--USSR
SOURCE--ZH. ORG. KHIM. 1970, 6(1), 174-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ANTHRACENE, AROMATIC HYDROCARBON, DIENE, CONDENSATION
REACTION, QUINONE, MALEIC ANHYDRIDE, HYDROCARBON SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1467 STEP NO--UR/0366/70/006/001/0174/0177
CIRC ACCESSION NO--AP0116904
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116904

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDENSATION OF 2,3-DIMETHYLANTHRACENE (I) WITH MALEIC ANHYDRIDE (II) OR RHO BENZOQUINONE (III) GAVE ONLY 9,10,ADDN. PRODUCTS: 2,3-DIMETHYL,9,10,(DICARBOXYETHANO),9,10,DIHYDROANTHRACENE ANHYDRIDE (IV) OR 2,3-DIMETHYL,1 PRIME,2 PRIME,DIHYDRO,3 PRIME,6 PRIME,TRIPTYCENEQUINONE (V). SIMILARLY, WHEN 2,3,6,7,TETRAMETHYLANTHRACENE (VI) OR 2,3-DIMETHYLCYCLOHEX(6,7)ANTHRACENE (VII) WERE REACTED WITH II OR III THE CORRESPONDING 2,3,6,7,TETRAMETHYL DERIV. OF IV AND V, ANHYDRIDE OF 2,3-DIMETHYL,9,10,(DICARBOXYETHANO),6,7,CYCLOHEXAND,9,10,DIHYDROANTHRACENE, OR 2,3-DIMETHYL,2 PRIME, 3 PRIME,DIHYDROQUINOND(3 PRIME,2 PRIME,9,10)CYCLOHEXAND(6,7),9,10,DIHYDROANTHRACENE WERE OBTAINED. THE REACTION OF IV OR ITS 2,3,6,7,TETRAMETHYLDERIV. WITH H SUB2 C:CMECME:CH SUB2 GAVE 2,3,6,7,TETRAMETHYLTRICYCLO(2.2.2.2)TETRADECA2,6(7),DIEN,9,10,DIONE. THE REACTION OF I, VI OR VII WITH O,H SUB2 NC SUB6 H SUB4 CO SUB2 H,AMYL LITHIUM MIXT. (WHICH FORMS BENZYNE) GAVE 2,3-DIMETHYLTRIPTYCENE, 2,3,6,7,TETRAMETHYLTRIPTYCENE, OR 2,3-DIMETHYLCYCLOHEXAND(6,7)TRIPTYCENE AS WELL AS THE CORRESPONDING 8,9,SUBSTITUTED,5,12,ETHANO,5,12,DIHYDRONAPHTHACENES OR 8,9,SUBSTITUTED,5,12,DIMETHYLETHENO,5,12, DIHYDRONAPHTHACENES. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr: **AP0053439** - Abstracting Service:
- CHEMICAL ABST. **5/70**Ref. Code:
UR 0366

111153h Aromatic hydrocarbons. XXXIX. 5,12-Diphenyl-1,2:3,4-dicycloalkano-6,11-benzo-6,11-dihydrotetracenes. Skvarchenko, V. R.; Shil'nikova, A. G.; Levina, R. Ya. (Mosk. Gos. Univ. im. Lomonosova, Moscow, USSR). *Zh. Org. Khim.* 1970, 6(1), 178-80 (Russ). The redn. of 1,2:3,4-dicyclohexano-6,11-benzo-1,4,6,11,13,14-hexahydrotetracene-5,12-dione or 1,2:3,4-dicyclopentano-6,11-benzo-1,4,6,11,13,14-hexahydrotetracene-5,12-dione with PhLi at -5 to 0° gave the corresponding 5,12-diphenyl-5,12-dihydroxy derivs. which were dehydrated in boiling EtOH contg. HCl to 5,12-diphenyl-1,2:3,4-dicyclohexano-6,11-benzo-1,4,6,11-tetrahydrotetracene (I) or 5,12-diphenyl-1,2:3,4-dicyclopentano-6,11-benzo-1,4,6,11-tetrahydrotetracene (II). The aromatization of I or II by heating with Pd-C catalyst gave 5,12-diphenyl-1,2:3,4:6,11-tribenzo-6,11-dihydrotetracene or 5,12-diphenyl-1,2:3,4-dicyclopentano-6,11-benzo-6,11-dihydrotetracene.

CPJR ✓

REEL/FRAME
19830464

USSR

UDC 539.434.539.219.1

3

KARPENKO, G. V., KUSLITSKIY, A. B., MIZETSKIY, V. L., ZLOTNIKOV, S. A., TKACHEV, V. I., SHIL'NIKOVA, G. K., and BEREZHKO, B. I., L'vov, Leningrad

"Effect of the Composition of Nonmetallic Inclusions on the Fatigue Limit of Steel 20"

Moscow, Izvestiya Akademii Nauk SSR, Metally, No 1, Jan-Feb 1970, pp 104-108

Abstract: Qualitative investigations were made of programmed amounts of impurities in steel. In connection with this, experiments were conducted on the formation in steel of non-metallic inclusions of a given chemical composition: plastic silicates, alumina and high-alumina aluminosilicates, semi-brittle silicates, and titanium nitrides. It is shown that the composition of non-metallic inclusions has a significant effect on the fatigue limit of the steel. Of the four types of inclusions studied, the most damaging proved to be plastic unsaturated silicates and titanium nitrides; silica inclusions were the least damaging. The principal negative role of non-metallic inclusions results in the appearance of considerable residual stresses owing to the difference in the physical properties of the inclusions and the metal matrix. These stresses are formed in the metal during unavoidable technological heating and cooling, even before external forces are applied.

1/1

- 11 -

USSR

UDC 620.172:193.57

POPOVICH, V. V., BICHUYA, A. L., ZAMORA, M. F., MIZETSKIY, V. L., SHIL'NIKOVA, G. K., BEREZHKO, B. I., and CHAYEVSKIY, M. I., Institute of Physics Mechanics, Academy of Sciences, UkrSSR, L'vov; L'vov Polytechnical Institute

"Influence of Smelting Method on the Physical and Mechanical Properties of 15KhS1MFB Steel"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 6, No 6, 1970, pp 93-97

Abstract: The corrosion resistance and long-term strength of ordinary and vacuum-smelted 15KhS1MFB steel were studied in a fused lead-bismuth eutectic. The changes in microstructure, microhardness, coercive force, and electrical resistance of specimens tested for corrosion and long-term strength were studied. It is demonstrated that 15KhS1MFB steel, regardless of the method of smelting, is little influenced by the eutectic Pb-Bi alloy at 470-550°C. The vacuum-smelted steel has practically the same long-term strength as the ordinary steel, but somewhat better plasticity.

1/1

- 60 -

USSR

UDC: 51

SEMENOV, Ye. V., SOKOLOVA, N. N., SHIL'NIKOVA, G. M.

"Solution of the Problem of Delivery of Finished Products According to an Hourly Schedule"

Tr. VNI Moloch. Prom-sti [Works of All-union Scientific Research Institute of the Milk Industry], 1972, No 28, pp 56-75 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V496, by the authors)

Translation: A solution is suggested for the problem of delivery of whole milk products according to an hourly schedule using a heuristic method. Programs for realization of the algorithm on a computer are described. Flow charts are presented. The order of transmission and processing of information under actual conditions is described.

1/1

-27-

USSR

UDC 51

SEMENOV, Ye. V., SOKOLOVA, N. N., SHIL'NIKOVA, G. M.

"Solution of the Problem of Displaying Finished Production on an Hourly Graph"

Tr. VNII moloch. prom-sti. (Works of the All-Union Scientific Research Institute of the Dairy Industry), 1972, No. 28, pp 56-75 (from RZh-Matematika, No 11, Nov 72, Abstract No 11V496)

Translation: The problem of displaying whole-milk production on an hourly graph is solved using a heuristic method. Programs for achieving a computer algorithm are described. Block diagrams are given. The order of the handling and processing of information under actual conditions is described. Authors abstract.

1/1

- 74 -

USSR

UDC 519.281

VOLODIN, I. N., POMERANETS, B. M., SHIL'NIKOVA, V. D.

"Asymptote of Distribution of Sampling Correlation Coefficient and Its Statistical Applications"

Uch. Zap. Kazan. Un-t. [Scientific Writings of Kazan' University], Vol 130, No 3, 1970, pp 3-17 (Translated from Referativnyy Zhurnal Kibernetika, No 3, 1971, Abstract No 3 V145 by Ye. Markova).

Translation: Asymptotic formulas are produced for the distribution of the sampling correlation coefficient r and the Fisher transform of its coefficient $L = \frac{1}{2} \ln \frac{1+r}{1-r}$, similar to the asymptotic Edgson-Kramer expansions for sums of independent random quantities. From these expansions, we can easily find asymptotic formulas for the quantiles of the distributions of r and L , asymptotic formulas for the confidence limits of correlation coefficient ρ and asymptotic formulas to estimate the number of observations necessary to differentiate two hypotheses $H_0(\rho \leq \rho_0)$ and $H_1(\rho > \rho_1)$ with fixed probabilities of errors of the first kind (ϵ) and second kind (ω). The principal results of the work are formulated as two lemmas, two theorems and five results. Calculation of the necessary number of

1/2

- 23 -

USSR

UDC 519.281

VOLODIN, I. N., POMERANETS, B. M., SHIL'NIKOVA, V. D., Uch. Zap. Kazan. Un-t.,
Vol 130, No 3, 1970, pp 3-17.

observations for the most commonly used ϵ and ω are presented in a table appended
to the article.

2/2

1/2 012
TITLE--BINDER FOR DIAMOND OR BORAZON TOOLS -U- UNCLASSIFIED PROCESSING DATE--11DEC70
AUTHOR--(03)--YEFELYANOV, B.M., SHILO, A.E., SMOLYAR, A.S.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 266,641
REFERENCE--LTKRYTIYA, IZOBRET., PROM. OBRATZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--17MAR70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CERAMIC BINDER, ABRASIVE, OXIDE GLASS, SILICA, SODIUM OXIDE,
CALCIUM OXIDE, BORON OXIDE, VANADIUM OXIDE, PATENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FKAME--3004/1074 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0131621
UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--11DEC70
CIRC ACCESSION NO--AA0131621
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE BINDER CONSISTS OF GLASS
AS THE MAJOR COMPONENT WHICH INCLUDES SIO SUB2, NA SUB2 D, CAO, AND B
SUB2 O SUB3. TO REDUCE THE CONSUMPTION OF THE ABRASIVE, THE FOLLOWING
GLASS COMPN. IS RECOMMENDED: SIO SUB2 55-65, NA SUB2 O, 15-22, CAO 3-6,
B SUB2 O SUB3 7-12, AND B SUB2 O SUB5 5-10 WT. PERCENT.
FACILITY: UKRAINIAN SCIENTIFIC RESEARCH INSTITUTE OF INSTRUMENTS AND
SYNTHETIC EXTRAHARD MATERIALS.

UNCLASSIFIED

1/2 018
TITLE--INTERACTION OF DIAMOND CUBIC BORON NITRIDE, AND GRAPHITE WITH GLASS
MELTS -U-
AUTHOR--(04)--PASHCHENKO, O.O., YENELYANOV, B.M., SHILO, A.E., KRUGLITSKAYA,
V.YA.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(3), 645-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--GLASS COMPOSITION, DIAMOND, BORON NITRIDE, SURFACE
TENSION, ADHESION STRENGTH, ABRASIVE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1984/1564
CIRC ACCESSION NO--AT0100182
STEP NO--UR/0020/70/190/003/0645/0646
UNCLASSIFIED

2/2 018

CIRC ACCESSION NO--AT0100182

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SMALL PIECES (APPROX. 0.05 G) OF GLASSES OF VARIOUS COMPS. WERE PLACED ON HORIZONTAL POLISHED SURFACES OF DIAMOND AND CUBIC BN, HEATED IN AN AR ATM. TO 800DEGREES, AND THEN THE WETTING ANGLE (θ) AND SURFACE TENSION (σ) MEASURED. WORK OF ADHESION (A) WAS CALCD. BY THE EQUATION $A = \sigma(1 + \cos \theta)$. THESE DATA ARE IMPORTANT FOR THE MANUF. OF CERAMIC ABRASIVE TOOLS BECAUSE THE BETTER THE WETTING, THE HIGHER THE BONDING STRENGTH BETWEEN ABRASIVE GRAINS AND THE VITREOUS MATRIX. THE K SUB2 O CONTENT OF THE GLASS IMPAIRS WETTING TO A HIGH EXTENT.

UNCLASSIFIED

Glass and Ceramics

USSR

UDC 661.184 + 678.84

PASHCHENKO, A. A., YEMEL'YANOV, B. M., SHILO, A. YE., and KRUGLITSKAYA, V. YA.
Kiev Polytechnical Institute, Kiev, Ministry of Higher and Secondary Specialized
Education USSR

"Interaction of Diamond, Cubic Boron Nitride, and Graphite with Glass Melt"

Moscow, Doklady Akad. Nauk SSSR, Vol 190, No 6, Jan 70, pp 645-646

Abstract: The authors studied the behavior of fused glass in contact with the surfaces of diamond, cubic boron nitride, and graphite, determining its wetting contact angle and adhesion. It was determined that the diamond and cubic boron nitride differ markedly from graphite by their contact angle, which is $\sim 90^\circ$ and $> 90^\circ$, respectively. Substituting K_2O for Na_2O in the glass results in drastic decrease of its wetting capacity of diamond and boron nitride surfaces. BaO improves slightly the wetting of diamond, and TiO_2 - both of the abrasive agents. The contact angle is lowered considerably on introduction of V_2O_5 . Substituting PbO for B_2O_3 has a detrimental effect on the diamond but improves the wetting of boron nitride. Best results are obtained by increasing the B_2O_3 content; in the case of diamond and cubic boron nitride the angle becomes almost zero, and in the case of graphite it is lowered to below 90° .

1/1

SHILO, V.L.

Microelectronics

MICROELECTRONICS

JPRS 57333
25 October 1972

Excerpts from Russian-language book edited by F. V. Lukin;
Mikroelektronika, No 5, 1972, Sovetskoye Radio Publishing House,
Moscow, UDC 621.382:621.396.6-181.5.

CONTENTS

	PAGE
Annotation.....	1
Obituary of Fedor Viktorovich Lukin.....	2
Foreword.....	3
Abstracts.....	5

- 2 -

(I - USSR - F)

ABSTRACTS

UDC 621.36.001

Physical Models of Low-Frequency Noises and Instability in the Characteristics of HBP Structures. Kochkin, V.S. and Stepanenko, I.P. In the Collection Mikroelektronika, edited by T.V. Lukin, No 5, p 5. Sovetskoye Radio Publishing House, 1972.

This article gives a classification and comparative analysis of known physical models of low-frequency noises and instability in the electrical characteristics of HBP structures. The interrelationship of the physical mechanisms that produce noises and instability is emphasized. Several methods are examined for decreasing instability and noises.

The article contains 13 figures and 14 bibliographic references.

UDC 621.383.8-621.378.147.3

Basic Parameters and Equivalent Circuits of Integrated Operational Amplifiers. Aleksenko, A.G. and Shilo, V.L. In the Collection Mikroelektronika, edited by T.V. Lukin, No 5, p 27. Sovetskoye Radio Publishing House, 1972.

An evaluation is given of the possibility of multipurpose use of integrated circuits of operational amplifiers in microelectronic equipment for processing analog signals. Variations are examined for supplying signals to the operational amplifier, its equivalent circuits and basic parameters.

The article contains 14 figures, 3 tables, and 24 bibliographic references.

USSR

SHILOV, A. A.

UDC 629.78.017.2

"Dynamic Stability of Rotating Capsule Motion in a Mode of Steady Descent in the Atmosphere"

Uch. Zap. Tsentr. Aerogidrodinam. In-ta (Scientific Writings of the Central Aerohydrodynamics Institute), Vol 3, No 2, 1972, pp 165-171 (from Referativnyy Zhurnal--Raketostroyeniye, No 8, 1972, Abstract No 8.41.80)

Abstract: The conditions of dynamic stability of space motion are examined for an axisymmetrical device with high resistance in the mode of vertical descent at a constant flight velocity and constant angular velocity of rotation relative to the longitudinal axis. A qualitative analysis of the types of motion is conducted by the method of root hodograph and the effect of gravitational forces on dynamic stability is evaluated. 2 figures, 10 bibliographical references.

1/1

- 45 -

USSR

UDC 629.78.076.8

BYUSHGENS, A. G., SHILOV, A. A.

"Concerning a Dynamic Model of a Parachute and Determining Its Characteristics"

Uch. zap. Tsentr. aerogidrodinam. in-ta (Scientific Notes of the Central Aerohydrodynamic Institute), 1972, Vol. 3, No. 4, pp 49-58 (from RZh-41. Raketostroyeniye, No 11, Nov 72, Abstract No 11.41.99)

Translation: The equations for the plane motion of a parachute of fixed geometry are considered, taking into account the effects of combined masses of air. Formulas are obtained on the basis of an analysis of the equations for calculating the parameters and characteristics of the parachute under a change in the centering of the system. A frequency analysis method is proposed to determine the aerodynamic and dynamic system parameters necessary for a linear analysis of stability. 5 ill., 7 ref. Resume.

1/1

USSR

UDC 619:614.9-084.47

SHILOV, A. A., OSTASHEV, S. N., NIKONOVA, T. G., Candidates of Veterinary Sciences, NIKONOVA, T. N., and ZERNYKH, Z. A., Veterinarians Kirov Agricultural Institute

"A New Technique for Injecting Biologicals"

Moscow, Veterinariya, No 10, 1971, pp 67-69

Abstract: Injection of many animals with biologicals is a costly and time-consuming process because the site has to be carefully treated (the fur shaved and the skin rubbed with a disinfectant or alcohol) to avoid infection. A new injection technique is proposed (for which the authors received a Soviet patent) involving the treatment of boiled needles with maslotimol. A given preparation can be injected subcutaneously or intramuscularly without first shaving the fur. Infection is prevented by mechanical isolation of the needle from the microbes present on the skin and not by chemical action against them. Maslotimol is a sterile vapor mineral oil with 0.2% thymol added as an antiseptic. When used in the amount recommended, maslotimol does not have any bactericidal effect on, for example, vaccine. However, it cannot be used in taking blood from animals.

1/1

USSR

UDC: 629.78.015.076.8

DIKUSAR, V. V., SHILOV, A. A.

"Irregular Optimum Trajectories of a Vehicle During Flight in the Atmosphere"

Uch. zap. Tsent. aero-gidrodinam. in-ta (Scientific Notes of the Central Aerohydrodynamic Institute), 1970, 1, No 4, pp 73-83 (from RZh-Raketostro-
yeniye, No 1, Jan 71, Abstract No 1.41.76)

Translation: The authors analyze the necessary conditions of optimality and give a solution for the problem of determining the maneuvering capabilities of a vehicle in the irregular case. Procedural singularities are examined in the numerical solution of boundary value problems in the case of irregular optimum trajectories. Four illustrations, bibliography of three titles.
Resumé.

1/1

- 35 -

USSR

UDC 629.19:533.6

DIKUSAR, V. V., SHILOV, A. A.

"Optimization of the Flight Range of a Craft in the Atmosphere Considering the Restriction on the Total Overload"

Uch. zap. Tsentr. aerogidrodinam. in-ta (Scientific Notes of the Central Aerodynamics Institute), Vol 1, No 2, 1970, pp 75-83 (from RZh-Mekhanika, No 10, Oct 70, Abstract No 10 B316)

Translation: This article contains a study of the problem of selecting the control of the angle of attack of a craft braking in the atmosphere during flight to minimum and maximum range considering the restrictions on the magnitude of the total overload. The L. S. Pontryagin principle of the maximum is used. The problem reduces to integration of the equations of two-dimensional motion of the craft and the equations of a conjugate system obtained from the condition of the maximum Hamiltonian of the expanded system. The procedural peculiarities of solving the problem considering the restrictions with respect to overload are investigated, and the results of numerical determination of the optimal trajectories are presented.

1/1

1/2 012 UNCLASSIFIED PROCESSING DATE--15OCT70
TITLE--CONCERNING CERTAIN APPROXIMATE METHOD OF SOLVING PROBLEM OF MINIMUM
OF MAXIMAL DEVIATION OF DYNAMIC SYSTEM -U-
AUTHOR--SHILOV, A.A.

S

COUNTRY OF INFO--USSR

SOURCE--AVTOMATIKA I TELEMEXHANIKA, 1970, NR 2, PP 161-164

DATE PUBLISHED-----70

SUBJECT AREAS--MATHEMATICAL SCIENCES, PHYSICS

TOPIC TAGS--APPROXIMATION METHOD, DYNAMIC SYSTEM, VARIATIONAL PROBLEM,
OPTIMAL AUTOMATIC CONTROL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FKAME--1983/1968

STEP NO--UR/0103/70/000/002/0161/0164

CIRC ACCESSION NO--AP0054766

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0054766

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. IT IS SUGGESTED TO SIMPLIFY THE FORMULATING OF CERTAIN VARIATIONAL PROBLEMS BY MEANS OF INTRODUCING A MEASURING FUNCTION AS A RESULT OF WHICH CERTAIN NONSTANDARD PROBLEMS OF THE CHOICE OF OPTIMAL CONTROL ARE SOLVED ON THE BASIS OF THE PRINCIPLE OF MAXIMUM (1).

UNCLASSIFIED

AT9012837

AUTHOR:

Shilov, A. A.

UR/0000

TITLE:

Effect of Mass and Aerodynamic Asymmetry on the Dynamics of a Rigid Body.

PRIMARY OSURCE:

Vsesoyuznyy s"yezd Po Teoreticheskoy i Prikladnoy Mekhanike, 3d. Moscow. Annotasii Dokladov.

ABSTRACT:

The features of uncontrolled motion about the center of mass of a vehicle having the form of a body of revolution are discussed. It is considered that the center of mass is not located on the axis of symmetry of the form, while the ellipsoid of inertia is oriented arbitrarily relative to the longitudinal surface. The fact of revolution instability according to the heel of the type of autorotation is determined by an analysis of static solutions and the equations for the energy of the rotary motion.

[AD]

1964 1570

Sh